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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,486	06/23/2005	Yuuichi Nishikouji	052523	3545

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EXAMINER

NGUYEN, LAUREN

ART UNIT	PAPER NUMBER
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2871

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/540,486	Applicant(s) NISHIKOUJI ET AL.	
	Examiner Lauren Nguyen	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>06/23/2005 and 09/22/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 06/23/2005 and 09/22/2005 were filed on and after the mailing date of the instant application on 06/23/2005. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

a. A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 10-13, and 15** are rejected under 35 U.S.C. 102(e) as being anticipated by **Kume et al. (U.S. Patent Number 5,249,071)**.

5. With respect to **claim 1**, as shown in figure 1, **Kume et al.** discloses a birefringent optical film comprising: at least one birefringent A-layer (15 or 17), and at least one birefringent B-layer (16 or 19); wherein the birefringent A-layer has a property satisfying $n_{y_a} > n_{z_a} > n_{x_a}$ and the

birefringent B-layer has a property satisfying $n_{x_b} = n_{y_b} > n_{z_b}$ (see at least paragraphs 0077 and 0080).

6. With respect to **claim 10**, as applied to **claim 1** above and shown in figure 1, **Kume et al.** discloses a laminated polarizing plate (12, 16, and 17; or 14, 15, and 19) comprising a birefringent optical film (15 and 19; or 16 and 17), wherein the birefringent optical film is the birefringent optical film according to claim 1.

7. With respect to **claim 11**, as applied to **claim 1** above and shown in figure 1, **Kume et al.** discloses a liquid crystal panel (6) comprising a liquid crystal cell (10, 10A, and 10B) and an optical member (15 and 19; or 16 and 17), the optical member being disposed on at least one surface of the liquid crystal cell, wherein the optical member is the birefringent optical film according to claim 1 or a laminated polarizing plate comprising the birefringent optical film according to claim 1 (figure 1).

8. With respect to **claim 12**, as applied to **claim 1** above and shown in figure 1, **Kume et al.** discloses a liquid crystal display comprising a liquid crystal panel (10, 10A, and 10B), wherein the liquid crystal panel is the liquid crystal panel according to claim 11.

9. With respect to **claim 13**, as applied to **claim 1** above and shown in figure 1, **Kume et al.** discloses an image display (6) comprising the birefringent optical film (15 and 19; or 16 and 17) according to claim 1.

10. With respect to **claim 15**, as applied to **claim 1** above and shown in figure 1, **Kume et al.** discloses the birefringent optical film according to claim 1, comprising one birefringent A-layer (15 or 17) and one birefringent B-layer (16 or 19).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kume et al. (U.S. Patent Number 5,249,071)** as applied above, in view of **Sakamoto et al. (U.S. Publication Number 2003/0125503)**.

3. With respect to **claim 2**, **Kume et al.** discloses the limitations as shown in the rejection of **claim 1** above. **Kume et al.** does not disclose the birefringent B-layer meets a requirement represented by $0.005 \leq \Delta n_b \leq 0.2$.

However, **Sakamoto et al.**, in at least paragraph 0026, lines 15-20, discloses the birefringent B-layer meets a requirement represented by $0.004 \leq \Delta n_b \leq 0.6$.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the birefringent B-layer of **Kume et al.** with the teaching of **Sakamoto et al.** because such modification would "ease the controlling of the film thickness at the time of attaching to a liquid crystal display device to obtain a retardation value" (see at least paragraph 0026, lines 24-28).

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 2144.05

14. **Claims 3, 5-6, and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kume et al. (U.S. Patent Number 5,249,071)** in view of **Aida et al. (U.S. Publication Number 2003/0164920)**.

15. With respect to **claims 3 and 5**, **Kume et al.** discloses the limitations as shown in the rejection of **claim 1** above. **Kume et al.** does not disclose the birefringent A-layer is formed of at least one of a polymer exhibiting negative birefringence and a polymer exhibiting positive birefringence (**claim 3**) and the birefringent B-layer is formed of a polymer exhibiting positive birefringence (**claim 5**).

However, **Aida et al.**, in at least figure 3, column 3, lines 33-36 and 61-64, discloses the birefringent A-layer is formed of a polymer exhibiting negative birefringence (**claim 3**; 103, see at least column 3, lines 34-36) and the birefringent B-layer is formed of a polymer exhibiting positive birefringence (**claim 5**; 102, see at least column 3, lines 33-34).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the birefringent A-layer and B-layer of **Kume et al.** with the teaching of **Aida et al.** because such modification would decrease the synthetic viewing angle dependency (see at least column 3, lines 38-43).

16. With respect to **claim 6**, **Kume et al.** does not disclose at least one polymer selected from the group consisting of polyamide, polyimide, polyester, polyetherketone, polyaryletherketone, polyamide imide and polyesterimide.

Aida et al. discloses the polymer exhibiting positive birefringence is polyester (see at least column 4, lines 46-50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the birefringent A-layer and B-layer of **Kume et al.** with the teaching of **Aida et al.** because polyester is a suitable material having a positive birefringent value to be used as the B-layer (see at least column 4, lines 1-5).

16. With respect to **claim 16**, **Kume et al.** discloses the limitations as shown in the rejection of **claim 1** above. **Kume et al.** does not disclose the birefringent A-layer is formed of a polymer exhibiting negative birefringence and the birefringent B-layer is formed of a polymer exhibiting positive birefringence.

However, **Aida et al.**, in at least figure 3, column 3, lines 33-36 and 61-64, discloses the birefringent A-layer is formed of a polymer exhibiting negative birefringence (103, see at least column 3, lines 34-36) and the birefringent B-layer is formed of a polymer exhibiting positive birefringence (102, see at least column 3, lines 33-34).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the birefringent A-layer and B-layer of **Kume et al.** with the teaching of **Aida et al.** because such modification would decrease the synthetic viewing angle dependency (see at least column 3, lines 38-43).

17. **Claims 4 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kume et al.** (U.S. Patent Number 5,249,071) and **Aida et al.** (U.S. Publication Number 2003/0164920), in view of **Kuwabara et al.** (U.S. Patent Number 5,875,014).

18. With respect to **claims 4 and 14**, the combination of **Kume et al.** / **Aida et al.** discloses the limitations as shown in the rejection of **claim 3** above. The combination of **Kume et al.** / **Aida et al.** does not disclose the birefringent A-layer is formed of a mixture of the polymer

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exhibiting negative birefringence and the polymer exhibiting positive birefringence (**claim 4**) and the polymer exhibiting negative birefringence and the polymer exhibiting positive birefringence contained in the mixture for forming the birefringent A-layer are compatible with each other (**claim 14**).

However, **Kuwabara et al.**, in at least column 5, lines 14-20, discloses the birefringent A-layer is formed of a mixture of the polymer exhibiting negative birefringence and the polymer exhibiting positive birefringence (**claim 4**; see at least column 5, lines 16-18) and the polymer exhibiting negative birefringence and the polymer exhibiting positive birefringence contained in the mixture for forming the birefringent A-layer are compatible with each other (**claim 14**; see at least column 5, lines 40-43).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the birefringent A-layer of the combination of **Kume et al. / Aida et al.** with the teaching of **Kuwabara et al.** because such modification would achieve an excellent black-and-white display of a liquid crystal display device apparatus (see at least column 2, lines 35-38).

19. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kume et al. (U.S. Patent Number 5,249,071)**.

20. With respect to **claim 7**, **Kume et al.** discloses the limitations as shown in the rejection of **claim 1** above. **Kume et al.** does not disclose the birefringent optical film meeting a requirement represented by $-3^{\circ} \leq \text{alignment axis accuracy} \leq 3^{\circ}$.

However, **Kume et al.** implicitly discloses the birefringent optical film meeting a requirement represented by $-3^{\circ} \leq \text{alignment axis accuracy} \leq 3^{\circ}$.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the alignment axis accuracy of **Kume et al.** at the time the invention was made to achieve an uniform characteristics across the display, resulting in a better display device.

21. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kume et al.** (U.S. Patent Number 5,249,071) in view of **Kaneko et al.** (U.S. Patent Number 6,693,692) and further in view of **Uchiyama et al.** (Recent Progress in Optical Retardation Films for FPDs, pages 493-496).

22. With respect to **claim 8**, **Kume et al.** discloses the limitations as shown in the rejection of **claim 1** above. **Kume et al.** does not disclose an in-plane retardation of the birefringent optical film has reciprocal wavelength dispersion characteristics.

However, **Kaneko et al.**, in at least column 15, lines 35-39 and lines 60-64, figures 8, 9-11, and 16, discloses a wide-band quarter-wavelength film as setting up by the agency of the birefringent A-layer (19) and the birefringent B-layer (18). In addition, **Uchiyama et al.** discloses reverse wavelength dispersion in wide-band quarter wave film (see at least page 493, lines 22-34)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the birefringent optical film of **Kume et al.** with the teaching of **Kaneko et al.** because such modification would change the polarization state at every wavelength and provide an excellent black display (**Kaneko et al.**; see at least column 0015, lines 45-47; and column 16, lines 21-25) and improve the wide-band characteristics in double configurations (**Uchiyama et al.**; page 496, lines 1-4).

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23. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kume et al.** (U.S. Patent Number 5,249,071) in view of **Kaneko et al.** (U.S. Patent Number 6,693,692).

24. With respect to **claim 9**, **Kume et al.** discloses the limitations as shown in the rejection of **claim 1** above. **Kume et al.** does not disclose the birefringent optical film meeting requirements represented by: $|\Delta_{nd_a}| \geq |\Delta_{nd_b}|$ and $\alpha_a < \alpha_b$.

However, **Kaneko et al.**, in at least column 15, lines 35-39 and lines 60-64, figure 8, 9-11, and 16, discloses $|\Delta_{nd_a}| \geq |\Delta_{nd_b}|$ and (curve 32 of the birefringent A-layer > curve 31 of the birefringent B-layer).

$$\alpha_a < \alpha_b \Rightarrow \frac{\Delta_{nd_{a430nm}}}{\Delta_{nd_{a550nm}}} < \frac{\Delta_{nd_{b430nm}}}{\Delta_{nd_{b550nm}}} \Rightarrow \frac{0.52}{0.5} < \frac{0.4}{0.38} \Rightarrow 1.04 < 1.53 \text{ (figure 16)}$$

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the birefringent optical film of **Kume et al.** with the teaching of **Kaneko et al.** because such modification would change the polarization state at every wavelength and provide an excellent black display (see at least column 0015, lines 45-47; and column 16, lines 21-25).

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshimizu et al. (U.S. Patent Number 5,249,071) discloses liquid crystal display devices having positive and negative uniaxially oriented polymer film. Fujita et al. (U.S. Patent Number 5,956,110) discloses the birefringent layer-A.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lauren Nguyen whose telephone number is (571) 270-1428. The examiner can normally be reached on M-F, 7:30-5:00 EST.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lauren Nguyen

March 01, 2007


ANDREW SCHACHTER
PRIMARY EXAMINER